Notice of Allowability	Application No.	Applicant(s)
	10/673,040	THESS ET AL.
	Examiner	Art Unit
	Neveen Abel-Jalil	2165
The MAILING DATE of this communication apperature All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIOF the Office or upon petition by the applicant. See 37 CFR 1.313	(OR REMAINS) CLOSED in this app or other appropriate communication GHTS. This application is subject to	blication. If not included will be mailed in due course. THIS
1. This communication is responsive to <u>December 14, 2006</u> .		•
2. The allowed claim(s) is/are <u>1-15</u> .		
 Acknowledgment is made of a claim for foreign priority ur a) All b) Some* c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 3. Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)). * Certified copies not received:	been received. been received in Application No	
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONN THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.	IENT of this application	
4. A SUBSTITUTE OATH OR DECLARATION must be subm INFORMAL PATENT APPLICATION (PTO-152) which give	itted. Note the attached EXAMINER es reason(s) why the oath or declara	'S AMENDMENT or NOTICE OF tion is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.		
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached		
1) hereto or 2) to Paper No./Mail Date		
(b) ☐ including changes required by the attached Examiner' Paper No./Mail Date		
Identifying indicia such as the application number (see 37 CFR 1 each sheet. Replacement sheet(s) should be labeled as such in t	.84(c)) should be written on the drawing the header according to 37 CFR 1.121(ngs in the front (not the back) of d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.		
Attachment(s)	5 Disting of Informal 5	Ostant Application
 Notice of References Cited (PTO-892) Notice of Draftperson's Patent Drawing Review (PTO-948) 	 5. ☐ Notice of Informal F 6. ☐ Interview Summary 	
3. Information Disclosure Statements (PTO/SB/08),	Paper No./Mail Da 7. ⊠ Examiner's Amendi	te
Paper No./Mail Date 4. Examiner's Comment Regarding Requirement for Deposit of Biological Material	8. ⊠ Examiner's Stateme	Neveen Abel-Jalil

DETAILED ACTION

Remarks

1. The After Final Amendment filed on December 4, 2006 has been received and entered. Claims 1-15 are pending.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Christopher J. Chan on December 18, 2006 (Attorney of Record).

Amendments to the Claims:

3. The application has been amended as follows:

Replace claim 1 with the following:

1. (Currently Amended): A computer-implemented method of determining a set of large sequences from an electronic data base comprising a set $D = \{dl,...,dn\}$ of transactions di $(1 \le i \le n)$ in a computer system with an implemented query module, each of the large sequences on the set D of transactions di having a support value greater than or equal to a given support value S, each

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of the transactions di of the set D being a sequence of items of a record $E = \{el,...,em\}$ of items ej $(1 \le j \le m)$ and the method comprising the following steps:

- a) determining, via a computer, a set L1 of large sequences from the set D of transactions, the large sequences of set L1 each comprising exactly one item of the record E, and an assigned support value S_{L1} on the sequence D of transactions each being greater than or equal to the given support value S;
- b) determining, via a computer, a set L2 of large sequences from the set D of transactions, the large sequences of set L2 each comprising exactly two items of the record E in a respective order R_{L2}, and an assigned support value S_{L2} on the set D of transactions each being greater than or equal to the given support value S, and nothing but sequences comprising one of the large sequences of set L1, as a partial sequence, being taken into account in determining set L2;
- determining, via a computer, a set Lk (k>2) of large sequences from the set D of transactions, the large sequences of set Lk each comprising exactly k items of record E in a respective order R_{LK}, and an assigned support value S_{LK} on the sequence D of transactions each being greater than or equal to the given support value S, and nothing but sequences comprising two of the large sequences of set Lk-1, as partly overlapping partial sequences, with the respective order R_{LK-1}, being taken into account in determining set Lk; and
- d) repeating step c) for k = k+1 and terminating the repetition of step c) when a predefined termination condition is fulfilled; and
- e) if when the repetition of step c) is terminated, outputting via a computer an indication of

whether any sequence results exist.

Replace claim 6 with the following:

6. (Currently Amended): A computer program product stored and implemented on a computer to determine a set of large sequences from an electronic data base comprising a set $D = \{dl,...,dn\}$ of transactions di $(1 \le i \le n)$ in a computer system with an implemented query module, each of the large sequences on the set D of transactions di having a support value greater than or equal to a given support value S, each of the transactions di of the set D being a sequence of items of a record $E = \{el,...,em\}$ of items ej $(1 \le j \le m)$ and the product comprising the following means:

- a) means recorded on an electronic storage medium for determining a set Ll of large sequences from the set D of transactions, the large sequences of set L1 each comprising exactly one item of the record E, and an assigned support value S_{L1} on the sequence D of transactions each being greater than or equal to the given support value S;
- b) means recorded on the electronic storage medium for determining a set L2 of large sequences from the set D of transactions, the large sequences of set L2 each comprising exactly two items of the record E in a respective order R_{L2}, and an assigned support value S_{L2} on the set D of transactions each being greater than or equal to the given support value S, and nothing but sequences comprising one of the large sequences of set L1, as a partial sequence, being taken into account in determining set L2;
- means recorded on the electronic storage medium for determining a set Lk (k>2) of large sequences from the set D of transactions, the large sequences of set Lk each comprising exactly k items of record E in a respective order R_{LK} , and an assigned support value S_{LK}

on the sequence D of transactions each being greater than or equal to the given support value S, and nothing but sequences comprising two of the large sequences of set Lk-1, as partly overlapping partial sequences, with the respective order R_{LK-1} , being taken into account in determining set Lk;

- d) means recorded on the electronic storage medium for repeating step c) for k = k+1 and terminating the repetition of step c) when a predefined termination condition is fulfilled; and
- e) means recorded on the electronic storage medium for outputting an indication of whether any sequence results exist, if when the repetition of step c) is terminated.

Replace claim 7 with the following:

7. (Currently Amended): An integrated sequential analysis system, comprising:

an electronic data base comprising a set $D = \{dl,...,dn\}$ of transactions di $(1 \le j \le n)$, each of the large sequences on the set D of transactions di having a support value greater than or equal to a given support value S, each of the transactions di of the set D being a sequence of items of a record $E = \{el, ..., em\}$ of items $ej (1 \le j \le m)$;

a query module comprising a query means coupled to the data base and a processing means for detecting query parameters and generating queries to the query means;

means for determining a set L1 of large sequences from the set D of transactions, the large sequences of set L1 each comprising exactly one item of the record E, and an assigned support value S_{L1} on the sequence D of transactions each being greater than or equal to the given support value S;

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means for determining a set L2 of large sequences from the set D of transactions, the large sequences of set L2 each comprising exactly two items of the record E in a respective order R_{L2} , and an assigned support value S_{L2} on the set D of transactions each being greater than or equal to the given support value S, and nothing but sequences comprising one of the large sequences of set L1, as a partial sequence, being taken into account in determining set L2;

means for determining a set Lk (k>2) of large sequences from the set D of transactions, the large sequences of set Lk each comprising exactly k items of record E in a respective order R_{LK} , and an assigned support value S_{LK} on the sequence D of transactions each being greater than or equal to the given support value S, and nothing but sequences comprising two of the large sequences of set Lk-1, as partly overlapping partial sequences, with the respective order R_{LK-1} , being taken into account in determining set Lk;

means for repeating step c) for k = k+1 and terminating the repetition of step c) when a predefined termination condition is fulfilled; and

means for outputting an indication of whether any sequence results exist, and outputting the indication when if the repetition of step c) is terminated.

Replace claim 12 with the following:

12. (Currently Amended): The method computer program product as claimed in claim 6, where the predefined termination condition comprises substantially all large sequences of maximum length being found.

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Replace claim 13 with the following:

13. (Currently Amended): The method computer program product as claimed in claim 6, where

the predefined termination condition comprises reaching a maximum length of the large

sequences.

Replace claim 14 with the following:

14. (Currently Amended): The method integrated sequential analysis system as claimed in claim

7, where the predefined termination condition comprises substantially all large sequences

of maximum length being found.

Replace claim 15 with the following:

15. (Currently Amended): The method integrated sequential analysis system as claimed in claim

7, where the predefined termination condition comprises reaching a maximum length of

the large sequences.

Allowance

4. Claims 1-15 are allowed over the prior art made of record.

5. Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 571-272-4074. The examiner can normally be reached on 8:30AM-5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Neveen Abel-Jalil December 18, 2006